

# The SKIMMER

News of the Delaware National Estuarine Research Reserve



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## MESSAGE FROM THE RESERVE MANAGER

The Delaware National Estuarine Research Reserve (DNERR) is one of 25 designated reserves across the country.

The program is a federal-state partnership whose goal is to establish, protect and manage natural estuarine habitats for research and education.

Delaware's Reserve consists of two components, the St. Jones River and Blackbird Creek.

These sites include both brackish and fresh water estuaries and represent the diverse estuarine ecosystems found throughout the Mid-Atlantic.

Dear Friends:

Greetings! Our Reserve Manager, Mark Del Vecchio, is on his way to Saudi Arabia as I type this. He departed on August 12 for Fort Dix, New Jersey to begin 15 days of preparation for his deployment to Esplanade Village where his Military Police Company of the Delaware National Guard will be serving for up to nine months. As you may recall from the summer issue of the Skimmer, Mark left in May to attend the Military Police Academy for nine weeks in preparation for Saudi Arabia. He was able to stop by the Reserve a few

times and do a little catching up before this latest departure. He extends a warm hello to everyone. Please keep Mark and his family in your thoughts. In Mark's absence, I am temporarily serving as Acting Manager. Should you have any questions, comments, or concerns, please feel free to drop me a line.

On a different note, our busy field season is finally beginning to die down. We are looking forward to the new construction that will begin in September as we expand the St. Jones Reserve Center. The expansion will include a small conference room, four

offices, and bathrooms complete with shower facilities for visiting researchers. The project should be completed by December. We will need volunteers in the spring to help us re-landscape the area that has to be disturbed for the construction.

Fall is a beautiful time to visit the Reserve. Make the most of a day off and come hike our two-mile trail. I look forward to seeing you!

*Katy (Dulin) Lamborn  
Acting Manager/  
Education Coordinator*

## MEET THE RESERVES - LIVE IN OCTOBER

The 14th annual National Estuaries Day will be celebrated on Saturday, October 5, 2002. National Estuarine Research Reserves and other estuarine organizations will celebrate with events and programs that weekend. The featured event this year is Estuary Live!, an interactive fieldtrip through our nation's estuaries over the Internet. Estuary Live! will webcast on October 3 and 4, 2002. This event, produced by

the North Carolina National Estuarine Research Reserve gives students from elementary school to college plus any group or individual interested in science or the environment, the opportunity to participate in an electronic, interactive field trip. Real time images will be transmitted across the Internet directly from the Rachel Carson site of the NCNERR as well as other selected NERRs sites, including Reserves in Oregon, New Jersey, Washington, South

Carolina, and Florida. Viewers will be able to ask questions, download images and files, and learn about the estuary from experts. Up to fifteen groups or individuals may view the live video and ask questions using the chat window at any time...but an unlimited number of viewers may log onto the site to watch the updated still images. School groups are scheduled in advance

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## FALL 2002 PROGRAMS AT THE RESERVE

**Preschool Naturalist**  
Sept. 30, Oct. 28, Nov. 26

**National Estuaries  
Day/Coast Day**  
Oct. 3, 4, & 6

**Friends of the  
St. Jones Reserve**  
Oct. 10, Nov. 20

**St. Jones River  
Boat Trip**  
Oct. 13

**Wildlife Detectives**  
Nov. 9

**Winter Trimmings**  
Dec. 11

For more information and  
registration call  
(302) 739-3436

## STAFF DIRECTORY

**RESERVE MANAGER:**  
*Mark DelVecchio*

**RESEARCH COORDINATOR:**  
*Bob Scarborough*

**EDUCATION COORDINATOR:**  
*Katy (Dulin) Lamborn*

**CONSERVATIONIST:**  
*Wes Conley*

**ESTUARINE EDUCATOR:**  
*Kate Marvel*

**RESEARCH TECHNICIAN:**  
*Mike Mensinger*

**INTERN:**  
*Heather Hudson*

## MEET THE RESERVES, CON'T

according to grade level so that students get the most out of the electronic estuary experience. The entire electronic field trip, live video pages and links pages may be accessed free of charge.

The Delaware Reserve will be celebrating National Estuaries Day by broadcasting

Estuary Live on the big screen. The St. Jones Reserve Center will be open during its normal business hours of 8:00-4:30 p.m. for the showing on Thursday and Friday. We will also be celebrating by participating in the University of Delaware's Coast Day on Sunday, October 6th. Coast

Day is held in Lewes at the University of Delaware's College of Marine Studies. Look for the Delaware Coastal Programs tent! For more information about National Estuaries Day events go to [www.estuaries.gov](http://www.estuaries.gov).

*Katy Lamborn*

## SILVER LAKE FORBAY PROJECT

Silver Lake is a serene area where Dover inhabitants may spend time enjoying a multitude of outdoor activities. A multi-agency cooperative project was recently completed to transform Silver Lake into a healthier environment for all of the its visitors and inhabitants. It is no secret that storm water runoff can negatively impact water quality, habitat, and the organisms living in or near runoff influenced areas. In order to address this problem a Forebay stormwater retention system was designed and implemented. Agencies that dedicated time, money, supervision, or other expertise include: DNREC's Division of Soil and Water Conservation including the Sediment and Stormwater program, Kent Conservation District, City of Dover, Del Dot, and the Silver Lake Commission.

Understanding the purpose of a Forebay system and how it operates is vital to

comprehending its usefulness. The project itself primarily consists of two cells, one upper and one lower. An inflow pipe is located in the first cell. Through this pipe, runoff from a roughly one-mile drainage area will flow into the first cell. Here, pollutants and sediment previously directed straight into Silver Lake settle out. Next, the runoff is naturally diverted

to another cell where wetland plants will uptake nutrients and help filter the water.

The Silver Lake Forebay is unique in regards to its size. Typically larger Forebay systems are employed for drainage areas of this size, however this project was

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*Photo taken at forebay site,  
Delaware State University*

## SILVER LAKE FORBAY PROJECT, CON'T.

deliberately designed at a smaller scale. During a time where development pressures continue to expand and available land continues to decrease, so too must the efforts dealing with associated runoff. If successful, a new avenue may be opened for stormwater management in areas where a large Forebay system would be impossible.

The construction of the Forebay has afforded researchers a prime opportunity to monitor runoff and gauge the project's effectiveness in improving water quality. An outflow pipe was designed and

constructed specifically to facilitate monitoring activity. Research coordinator Robert Scarborough with the support of DCMP's Bonnie Willis and myself are employing Isco 6700 automated samplers to gauge how well the Forebay is doing its job. The equipment will extract water samples each time a predetermined flow rate is met. Two samplers, one at the inflow pipe and one at the outflow pipe, are being deployed. Analyzing both the inflow and outflow pipes' discharge allows us to understand the amount of nutrients and pollutants removed by the Forebay.



*Silver Lake Forebay system at Delaware State University*

The project is a wonderful example of the cooperative efforts between many different entities in order to accomplish a unified goal. If monitoring uncovers favorable results, the small Forebays could be utilized in other space-restricted areas

suffering from the problems associated with stormwater runoff. This would in turn lead to improvements in water quality and habitat for everyone in the area.

*Mike Mensinger*

## A PAGE FROM THE NATURALIST'S NOTEBOOK



### Wild Turkey (*Meleagris gallopavo*)

During the Fall season we think of cooler temperatures, leaves changing colors of yellow, gold and red, the smell of fresh brisk air, and of course Thanksgiving. This is the time in which we all reflect

and give thanks for what we have and for the many joys of life we encounter everyday. We should also give thanks during this time for the many animals and plants we get to enjoy as we take our morning walk, hike through nature trails, and even on our travels to and from work everyday. Many of us would think of the Wild Turkey (*Meleagris gallopavo*) since we do enjoy this miraculous bird during the Fall.

*Distribution:* Wild Turkeys are not often seen even though they cover a wide range of North America. One

would see them if hunting, in forested regions, or even on small farmlands where they like to forage for plant seeds. They can also be found in mountain regions with forests, woodlots, and swampland areas. The range of North America in which they cover extends from southern Canada to central Mexico. So while traveling through these regions, be on the lookout for flocks of Wild Turkeys.

*General Description:* The male turkey, or the Tom, weighs between 18-24 pounds where as the female turkey, or the Hen, weighs around 10

pounds. The plumage for both the Tom and Hen is an iridescent bronze color where it is darker on the Tom and a light brown on the Hen. Their wing span can reach 40 inches across. The male turkey will have a red neck and





*es-tu-ar-y (ēs'chōō-ēr'ē) n., pl. es-tu-ar-ies. 1. The part of the wide lower course of a river where its current is met by the tides. 2. An arm of the ~~SEA~~ that extends inland to meet the mouth of a river.*

## A PAGE FROM THE NATURALIST'S NOTEBOOK, CON'T.



*Photo courtesy of U. S. Fish and Wildlife Service*

head and a dewlap (skin under the chin), a caruncle (growth on side and front of neck), and a snood (a flap of skin on the bill). The males will also have a beard that hangs down from their chest, as do a few females. The female turkey will have a bluish color head with more feathers than the male. Both will have a wattle, or the piece of skin that hangs from the throat. During April, mating season, one might here a "gobble gobble" this is the sound of the male turkey getting the attention of the female. The Tom is the only one that gobbles. Other sounds by both the Tom and the Hen could be a yelp, cluck, cackle, purr, or rattle. Once mating has subsided in April it is time for the Hen to start nesting in May. Her nest will look like a small depression on the ground under brush lined with dead leaves. The Hen

will lay between 8 and 15 eggs and within 28 days the baby turkeys, or Poults, will hatch. Many nests will be invaded by predators, such as raccoon, skunk, opossum, snake, and fox, which will result in a loss of Poults. Those that survive, when about two weeks old, will be able to fly up to lower branches of trees to escape these predators. Once an adult the turkey will be able to run as fast as 12 mph and fly up to 55 mph. Wild turkeys feast upon acorns, their favorite, beechnuts, grapes, sumac and dogwood fruits, blackberries, cherries, corn and soybeans, insects, spiders, snails, and many more various types of critters. They will consume 90 percent plant matter and 10 percent insects in their diet.

*Life History:* The history of the wild turkey dates back as far as 1.8 to 5 million years ago.

More recent history tells us that the Native American tribes in the Midwest and East would use the turkey as one of their main food sources, as well as for clothing, blankets, ceremonial wear, and tools and utensils. When colonists started to settle here in the 1600's they began to hunt and gather turkey for their food source as well, because an increase in colonists caused an increase in food demand. Due to a high demand for food hunting of turkey went up causing them to almost become extinct in the 1800's. The only place at that time in which to find a wild turkey was to go to a secluded



forest region. By the 1900's laws were starting to pass to help regulate and conserve our wildlife. Because of this, the wild turkey started to redeem itself. Now the population of the eastern wild turkey is approximately 3 million and rising.

### Fun Facts:

- ✦ Ben Franklin wanted the turkey to be the official United States bird, but was disappointed when learning the bald eagle was going to be the national bird.
- ✦ Wild turkeys can hear extremely well even though they have no ears
- ✦ Their vision is extremely good giving them a full range of 270 degrees to stay clear of danger.
- ✦ Wild Turkeys can have heart attacks. This was proven when a flock of turkeys in a nearby field dropped dead during test runs by the Air Force when they broke the sound barrier.
- ✦ If a turkey looks up when it is raining it can drown.

*Heather Hudson*



## GEARING UP FOR SCHOOL PROGRAMS

The St. Jones Reserve is preparing for a busy fall schedule of school programs. We are educating our youth and providing them with the opportunity to learn about our valuable natural resources. Our programs include on-site as well as out-reach educational opportunities to learn about estuaries and their values and functions as part of the ecosystem. We provide the tools and the knowledge for our students to learn about these valuable resources and how to make decisions about the future of them. We recognize that it is today's youth that will soon be making these difficult decisions and it is our goal to help prepare them. Reserve staff conducts integrated research and education programs that develop a fundamental understanding of estuaries and how these areas are impacted by human activities.

The curriculum covers all the state standards for grades

K-12. It is our goal to challenge students to think critically about difficult issues. Hopefully, students will take ownership of the environment and realize they are an integral part of keeping this ecosystem healthy. Our local colleges and universities have taken an active roll in providing their students the opportunity to participate in our programs also.

We offer programs that include hands on activities such as exploring the estuary, watershed pollution and water quality issues. The student's test the St. Jones River for dissolved oxygen levels, nitrates, salinity and turbidity. They are provided with the test kits to determine the health of the St. Jones watershed and to share the data they have collected. Small groups of 30 students or less are provided the opportunity to participate in our Salt to Fresh boat trip. 16 students at a time will experience the St. Jones

*Education  
Program lead by  
Katy Lamborn*



Estuary from a 24ft. Carolina Skiff or by canoe. They will sample water, discuss what influences salinity changes, and learn about the tidal process. The history of the area will be discussed with a focus on the John Dickinson Plantation and how the river was a navigable, profitable waterway. Students also will learn the flora and fauna found in and along the river. The Muckless Marsh Walk introduces children to the St. Jones Estuary through a walking tour of the Reserve. Wetland ecology is discussed while walking over the salt marsh on our ¼ mile boardwalk. They also will be introduced to our weather station where we have a direct live feed into the reserve building and learn about the nitrogen deposition sampler. If it is Beach Ecology you are looking for join us for a trip to Bowers Beach to determine the relationship of plants and animals and how they adapt to three different beach

environments: dunes, sandy beaches, and the coastal water zone. They will use field guides to identify plants and animals in each of the unique habitats. Activities will also include active participation in beach combing, seining, and horseshoe crab ecology.

Outreach programs are also available upon request. We offer an Introduction to the Estuary, which although it can stand alone it is helpful as an introductory activity for an On-Site visit. Other programs include Non-Point Source Pollution/Watersheds and Horseshoe Crab Ecology.

Call the Reserve at (302)739-3436 for more information or to schedule a program. Hurry though as our calendar is filling up quickly. Ask for Kate Marvel or Katy Lamborn to schedule.

*Kate Marvel*

## SMYRNA HIGH VOLUNTEER

The Smyrna High School Agriculture program helped the Reserve staff replace 50% of the top rail on our 1/4 mile marsh boardwalk on April 26th. The boardwalk, used for interpretive and research activities, has been in place for several years and the top rail had deteriorated. The rail was replaced with recycled plastic, is environmentally friendly and saves trees. Thanks to teachers Jim Harrison, Keith Shane, and all of the students who helped with the project. The many hands that participated made a big task manageable.

*Wes Conley*

## BUTTERFLY GARDEN

On June 22, Clayton Feiler along with friends and other volunteers completed a butterfly garden for the St. Jones Reserve. They planted butterfly bushes, black-eyed susans and erected a butterfly house.

The garden was an Eagle Scout Leadership Service Project for Clayton (C. J.). After meeting the prerequisites for Eagle Scout, C. J. needed to follow a plan to reach his goal. First he had to find a project that would benefit community, school, church, civic group, or similar,

and not directly benefit a Scouting group. After locating a project, it must be approved by the unit leader, unit committee, and council. Next the project objectives needed to be planned, how to accomplish the plan, and what resources will be needed to complete the project. Approval from the sponsoring organization and the Scouting committees are needed before the final step of completion. The garden took planning, organization, and leadership. The final step was to file a report with the Boy Scouts.

The Reserve now has a raised bed garden with flowers, bees, and butterflies thanks to C.J. and other volunteers.

If anyone is interested in similar projects, contact The St. Jones Reserve at 739-3436 ext. 18.

*Wes Conley*



*Thanks to Adam Hulstine, Christian Dubsky, Brian Twilley, Brett Wyatt, Ben Walls, William Farrell, Craig Foster, and C. J. Feiler.*